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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,787	07/13/2001	Masumi Sato	211432US2	1486

22850 7590 12/23/2002

OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

BRASE, SANDRA L

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 12/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,787

Applicant(s)

SATO ET AL.

Examiner

Sandra L. Brase

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 6, 7, 8, 10, 11
13 and 14
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2852

Election/Restrictions

1. Applicant's election of Group I (claims 1-19) in Paper No. 12 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 20-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 12.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the image forming section including the image forming units and the transfer belt device is detachably attached to the main body of the image forming apparatus independently of the toner containing vessel must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2852

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto (JP 11-095519).

Fujimoto (...519) discloses a color image forming apparatus comprising: a transfer belt (213) which feeds a transfer member (P); a plurality of image forming units (Pa, Pb, Pc and Pd), which are disposed facing towards the transfer belt (figure 1), wherein each of the image forming units form a desired image and sequentially transfers the formed image on the transfer member fed by the transfer belt device ([0026]-[0028]); and where the transfer belt device at least in a portion in which the image forming units have been disposed is arranged such that it is inclined with respect to the ground (figure 1). The transfer belt includes a plurality of wheels (214 and 215); and an endless belt wound around the wheels (216), where the image forming units are arranged facing towards the transfer belt device along one of the directions in which the belt moves (figure 1). The transfer belt device is inclined in such a manner that the end from which the transfer member is fed is at a lower level than the end from which the transfer member is discharged, where the angle of inclination with respect to ground is within the claimed range (figure 1). The transfer belt device can be turned on the axial center of one of the wheels constituting the traveling side at which the plurality of image forming units are arranged (figure 1). Each of the image forming units includes, a rotary image carrier (222a, 222b, 222c and 222d); a developing unit (224a, 224b, 224c and 224d) which develops a latent image formed on the image carrier with a toner is located in a lower right quadrant when the transfer belt device in the image forming unit is positioned in a lower left quadrant as viewed in an axial direction in

Art Unit: 2852

which the image carrier is rotated (figure 1), and a cleaning unit (226a, 226b, 226c and 226d) which cleans a toner remaining on the image carrier is located in an upper left quadrant when the transfer belt device in the image forming unit is positioned in the lower left quadrant as viewed on a center axis on which the image carrier is rotated (figure 1). A writing unit is provided for performing optical writing with respect to each of the image forming units and is slantwise disposed substantially in parallel to the transfer belt (figure 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (JP 11-095519) in view of Yoshida et al. (US 5,602,633).

Art Unit: 2852

Fujimoto (...519) discloses the features mentioned previously, but does not disclose that the cleaning unit of one image forming unit is partly overlapped by an adjacent developing unit of another image forming unit. Yoshida et al. (...633) disclose a plurality of image forming units, where the cleaning unit of one image forming unit is partially overlapped by an adjacent developing unit of another image forming unit (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a cleaning unit of one image forming unit is partially overlapped by an adjacent developing unit of another image forming unit since such a configuration, as disclosed by Yoshida et al. (...633), requires less space than a non-overlapping configuration.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (JP 11-095519) in view of Yoshida et al. (US 5,602,633) as applied to claim 8 above, and further in view of Reese et al. (US 5,272,510).

Fujimoto (...519) in view of Yoshida et al. (...633) disclose the features mentioned previously, but do not disclose the claimed waste toner container. Reese et al. (...510) disclose a waste toner container (24) containing therein a waste toner recovered by a cleaning unit, where the waste toner container is located at a bottom portion of an image forming apparatus under a transfer device, and is formed into a substantial triangle in cross section (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the claimed waste toner container so that waste toner can be easily removed from the apparatus, as disclosed by Reese et al. (...510).

Art Unit: 2852

10. Claims 11-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (JP 11-095519) in view of Taniyama et al. (US 6,259,877).

Fujimoto (...519) discloses the features mentioned previously, and discloses a fixing and heating unit (217) disposed downstream in a transfer member feeding direction of the transfer belt device (figure 1) and a reversing unit disposed downstream in the transfer member feeding direction of the heating and fixing unit, where a double-sided transporting path is provided for returning the transfer member reversed by the reversing unit to upstream of the transfer belt device, and the double-sided transporting path is slantwise disposed substantially in parallel to the transfer belt (figure 1), but does not disclose the heating and fixing unit positioned above the writing unit and the claimed space outside the apparatus defined between the heating and fixing unit and the writing unit. Taniyama et al. (...877) disclose an image forming apparatus including a heating and fixing unit (15D) positioned above a writing unit (9) in view of a height level (figure 1). A space outside of the apparatus is defined between the heating and fixing unit and the writing unit, where the space is formed into the shape of a casing sunken between the heating and fixing unit and the writing unit, where the sunken portion of the casing serves as a sheet discharging tray for the transfer member discharged outside of the apparatus (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the heating and fixing unit positioned above the writing unit since such a position of a heating and fixing unit for fixing images on a transfer member is well known in the art, and it would have also been obvious to have the claimed space outside the apparatus defined between the heating and fixing unit since such a defined space for discharging transfer members thereto after imaging is well known in the art, as disclosed by Taniyama et al. (...877).

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (JP 11-095519) in view of Taniyama et al. (US 6,259,877) as applied to claim 11 above, and further in view of Kurotaka et al. (US 6,055,390).

Fujimoto (...519) in view of Taniyama et al. (...877) disclose the features mentioned previously, but do not disclose the claimed type of the heating and fixing unit. Kurotaka et al. (...390) disclose a heating and fixing unit, in an image forming apparatus, including a fixing roller (2), a pressurizing roller (4) in press-contact with the lower portion of the fixing roller, a heating roller (1) to be heated by heating unit (5) and a belt (3) wound across the fixing roller and the heating roller, where the heating roller is disposed more upstream in a transfer member (13) feeding direction than the fixing roller (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the heating and fixing unit be the claimed type since such a type, as disclosed by Kurotaka et al. (...390) is considered to be a functional equivalent of the heating and fixing unit type of Fujimoto (...519) and the heating and fixing unit of Taniyama et al. (...877) since all of the heating and fixing units function to fuse an image onto a transfer sheet through the application of heat and pressure, where when the heating and fixing unit of Kurotaka et al. (...390) takes the orientation of the heating and fixing unit of Taniyama et al. (...877), the heating roller would be positioned under the fixing roller.

12. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al. (JP 11-095519) in view of Isobe et al. (US 6,324,370).

Art Unit: 2852

Fujimoto et al. (...519) discloses the features mentioned previously, and discloses a toner containing vessel, formed into a substantial triangle in cross section, containing therein a toner to be replenished to the developing unit in each of the image forming units (figure 1), but does not disclose that the toner containing vessels are located at a position apart from the developing unit in each of the image forming units. Isobe et al. (...370) disclose an image forming apparatus including a plurality of image forming units (9Y, 9M, 9C and 9K), where a toner containing vessel (12Y, 12M, 12C and 12K) containing therein a toner to be replenished to a developing unit in each of the image forming units is located at a position apart from the developing unit in each of the image forming units, where the toner containing vessels are installed inside a space which is defined above a transfer member (figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the toner containing vessels located apart from the developing unit in each of the image forming units so that the toner vessels can be replaced independently, as disclosed by Isobe et al. (...370).

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (JP 11-095519) in view of Isobe et al. (US 6,324,370) as applied to claim 17 above, and further in view of Matsuo et al. (US 5,146,270).

Fujimoto (...519) in view of Isobe et al. (...370) disclose the features mentioned previously, and Isobe et al. (...370) disclose the image forming units are detachably attached to the main body of the image forming apparatus independently of the toner containing vessels (col. 12, lines 7-30), but do not disclose the image forming units and the transfer belt device as a detachably attached section. Matsuo et al. (...270) disclose a detachably attached unit including

Art Unit: 2852

an image forming unit and a transfer member (figures 1A-1T). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the image forming units and the transfer belt as one detachably attached section since it is well known in the art to place an image forming unit and a transfer member together in one detachably attached unit, as disclosed by Matsuo et al. (...270), so as to facilitate the replacement of the image forming units and the transfer device together.

Contacts \ Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is (703) 308-0725.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley, can be reached on (703) 308-1373. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3431 or 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sandra L. Brase
Primary Examiner
Art Unit 2852

December 19, 2002

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

211432US2

SERIAL NO.

09/903,787

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Masumi SATO, et al.

FILING DATE

July 13, 2001

GROUP

2621 2852

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
AMB	AA	5,839,032	11/17/98	M. YASUI, et al.	—	—	
AMB	AB	5,400,123	03/21/95	M. SATO, et al.	—	—	
AMB	AC	6,112,047	08/29/2000	Y. KATO, et al.	—	—	
AMB	AD	6,134,418	10/17/2000	Y. KATO, et al.	—	—	
AMB	AE	6,263,185	07/17/2001	Y. KATO, et al.	—	—	
	AF						
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FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	9-269626	10/14/97	JAPAN (with partial English translation)	X	
	AP	10-239938	09/11/98	JAPAN (with partial English translation)	X	
	AQ					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

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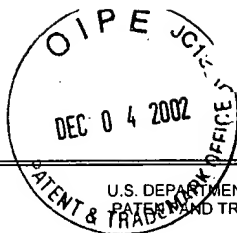
Examiner

S.C. Brown

Date Considered

12/19/02

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

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U.S. PATENT DOCUMENTS

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<i>SLB</i>	AA	6,249,304	06/19/01	SAWAYAMA et al.	—	—	
<i>SLB</i>	AB	6,122,468	09/19/00	SAKAMOTO et al.	—	—	
<i>SLB</i>	AC	6,308,027	10/23/01	OBU et al.	—	—	
	AD						
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FOREIGN PATENT DOCUMENTS

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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
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☐ Additional References sheet(s) attached

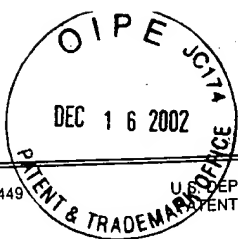
Examiner

SL. Brum

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12/19/02

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
<i>LB</i>	AA	5,621,221	04/15/97	SHINOHARA, et al.	—	—	
<i>LB</i>	AB	5,899,597	05/04/99	SHINOHARA, et al.	—	—	
<i>LB</i>	AC	5,737,665	04/07/98	SUGIYAMA, et al.	—	—	
<i>LB</i>	AD	5,765,083	06/09/98	SHINOHARA	—	—	
<i>LB</i>	AE	5,963,240	10/05/99	SHINOHARA, et al.	—	—	
<i>LB</i>	AF	5,962,783	10/05/99	IWATA, et al.	—	—	
<i>LB</i>	AG	6,128,459	10/03/00	IWATA, et al.	—	—	
<i>LB</i>	AH	6,118,557	09/12/00	SUGIYAMA et al.	—	—	
<i>LB</i>	AI	5,875,380	02/23/99	IWATA, et al.	—	—	
<i>LB</i>	AJ	6,295,435	09/25/01	SHINOHARA, et al.	—	—	
<i>LB</i>	AK	6,282,396	08/28/01	IWATA, et al.	—	—	
<i>LB</i>	AL	6,380,960	04/30/02	SHINOHARA	—	—	
<i>LB</i>	AM	6,381,435	04/30/02	SHINOHARA, et al.	—	—	
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FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
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	AO					
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

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	AX	
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☐ Additional References sheet(s) attached

Examiner

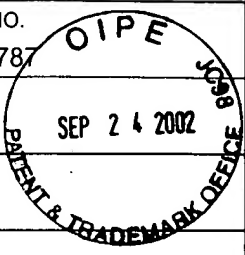
S.L. Brown

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12/19/02

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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 211432US2		SERIAL NO. 09/903,787	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Masumi SATO et al.			
				FILING DATE July 13, 2001		GROUP 2852	



U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE	
<i>PHB</i>	AA	6,006,050	12/21/99	WATANABE	—	—	
<i>PHB</i>	AB	6,055,388	04/25/00	WATANABE et al.	—	—	
<i>PHB</i>	AC	6,014,532	01/11/00	TAKEICHI et al.	—	—	
<i>PHB</i>	AD	6,118,964	09/12/00	KOJIMA et al.	—	—	
<i>PHB</i>	AE	6,101,351	08/08/00	SUDA et al.	—	—	
<i>PHB</i>	AF	6,055,394	04/25/00	SUDA et al.	—	—	
<i>PHB</i>	AG	6,208,826	03/27/01	YOSHINAGA et al.	—	—	
<i>PHB</i>	AH	6,219,520	04/17/01	EHARA	—	—	
<i>PHB</i>	AI	6,256,465	07/03/01	YOSHINAGA et al.	—	—	
<i>PHB</i>	AJ	6,336,013	01/01/02	SUDA et al.	—	—	
<i>PHB</i>	AK	6,334,039	12/25/01	YOSHINAGA et al.	—	—	
<i>PHB</i>	AL	6,366,754	04/02/02	SATO et al.	—	—	
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DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION		
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)	
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AZ	<input type="checkbox"/> Additional References sheet(s) attached

Examiner <i>S.L. Bruse</i>	Date Considered <i>12/19/02</i>
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				FILING DATE 07/13/01		GROUP 2821 2852	



U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
AB	AA	5,424,814	06/13/95	SUZUKI et al.	—	—	
AB	AB	5,339,141	08/16/94	SUZUKI et al.	—	—	
AB	AC	5,537,197	07/16/96	FUJISHIRO et al.	—	—	
AB	AD	5,671,465	09/23/97	KIMURA et al.	—	—	
AB	AE	5,583,630	12/10/96	KIMURA et al.	—	—	
AB	AF	5,512,984	04/30/96	KIMURA et al.	—	—	
AB	AG	5,565,973	10/15/96	FUJISHIRO et al.	—	—	
AB	AH	5,655,193	08/05/97	FUJISHIRO et al.	—	—	
AB	AI	5,953,568	09/14/99	FUJISHIRO et al.	—	—	
AB	AJ	6,070,030	05/30/00	FUJISHIRO	—	—	
AB	AK	6,295,438	09/25/01	FUJISHIRO et al.	—	—	
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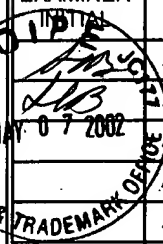
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Examiner <i>S. C. Bruce</i>	Date Considered <i>12/19/02</i>
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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 211432US-2		SERIAL NO. 09/903,787	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Masumi SATO, et al.			
				FILING DATE July 13, 2001		GROUP 2621 <i>2862</i>	
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,440,373	8-8-95	Deki et al.	—	—	
	AB	5,515,145	5-7-96	SASAKI, et al.	—	—	
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Examiner <i>S. C. Brase</i>					Date Considered <i>12/19/02</i>		
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LIST OF REFERENCES CITED BY APPLICANT

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Masumi SATO, et al.

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<i>ASB</i>	AA	5,950,055	09/07/99	M. YAHATA, et al.			
<i>ASB</i>	AB	5,923,356	07/13/99	G. A. GIBSON, et al.			
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		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO	
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<i>ASB</i>	AP	9-114172	05/02/97	JAPAN (with English Abstract)		X
<i>ASB</i>	AQ	62-264144	11/17/87	JAPAN (with English Abstract)		X
<i>ASB</i>	AR	11-015347	01/22/99	JAPAN (with English Abstract)		X
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<i>ASB</i>	AT	2000-147879	05/26/2000	JAPAN (with English Abstract)		X
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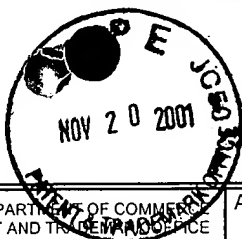
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<i>MS</i>	AB	5,784,675	07/21/98	M. INOUE, et al.	—	—	
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